



**Rules and Regulations
for the Classification of
Inland Waterways Ships,
November 2008**

Notice No. 5

Effective Date of Latest
Amendments:

See page 1

Issue date: February 2010

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RULES AND REGULATIONS FOR THE CLASSIFICATION OF INLAND WATERWAYS SHIPS,

November 2008

Notice No. 5

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Inland Waterways Ships, November 2008*. The amendments are effective on the dates shown:

Part	Chapter	Section	Effective date
1	1	5	1 March 2010
3	4	5	Corrigendum
3	5	2	Corrigendum
3	11	2	Corrigendum
3	12	2, 5	Corrigenda
3	13	1	Corrigenda
4	1	7, 11	Corrigenda
4	6	4, 5, 7	Corrigenda

The *Rules for Inland Waterways* are to be read in conjunction with this Notice No. 5.

The status of the Rules is now:

Rules for Inland Waterways	Effective date:	November 2008
Notice No. 1	Effective date:	1 March 2009
Notice No. 2	Effective date:	1 April 2009
Notice No. 3	Effective date:	1 July 2010 and Corrigendum
Notice No. 4	Effective date:	1 July 2010 and Corrigenda
Notice No. 5	Effective date:	1 March 2010 and Corrigenda

Part 1, Chapter 1

General Regulations

Effective date 1 March 2010

■ Section 5

5.1 LR has the power to adopt, and publish as deemed necessary, Rules relating to classification and has (in relation thereto) provided the following:

- (a) Except in the case of a special directive by the Board, no new Regulation or alteration to any existing Regulation relating to classification or to class notations is to be applied to existing ships.
- (b) Except in the case of a special directive by the Board, or where changes necessitated by mandatory implementation of International Conventions, Codes or Unified Requirements adopted by the International Association of Classification Societies are concerned, no new Rule or alteration in any existing Rule is to be applied compulsorily after the date on which the contract between the ship builder and shipowner for construction of the ship has been signed, nor within six months of its adoption. The date of 'contract for construction' of a ship is the date on which the contract to build the ship is signed between the prospective shipowner and the ship builder. This date and the construction number (i.e. hull numbers) of all the vessels included in the contract are to be declared by the party applying for the assignment of class to a newbuilding. The date of 'contract for construction' of a series of sister ships, including specified optional ships for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective shipowner and the ship builder. In this section a 'series of sister ships' is a series of ships built to the same approved plans for classification purposes, under a single contract for construction. The optional ships will be considered part of the same series of sister ships if the option is exercised not later than 1 year after the contract to build the series was signed. If a contract for construction is later amended to include additional ships or additional options, the date of 'contract for construction' for such ships is the date on which the amendment to the contract is signed between the prospective shipowner and the ship builder. The amendment to the contract is to be considered as a 'new contract'. If a contract for construction is amended to change the ship type, the date of 'contract for construction' of this modified vessel, or vessels, is the date on which the revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder. Where it is desired to use existing approved ship or machinery plans for a new contract, written application is to be made to LR. Sister ships may have minor design alterations provided that such alterations do not affect matters related to classification, or if the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the ship builder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to LR for approval.
- (c) All reports of survey are to be made by surveyors authorised by members of the LR Group to survey and report (hereinafter referred to as 'the Surveyors') according to the form prescribed, and submitted for the consideration of the Classification Committee.
- (d) Information contained in the reports of classification and statutory surveys will be made available to the relevant owner, National Administration, Port State Administration, P&I Club, hull underwriter and, if authorised in writing by that owner, to any other person or organisation.
- (e) Notwithstanding the general duty of confidentiality owed by LR to its client in accordance with the LR Rules, LR clients hereby accept that, LR will participate in the IACS Early Warning System which requires each IACS member to provide its fellow IACS members and Associates with relevant technical information on serious hull structural and engineering systems failures, as defined in the IACS Early Warning System (but not including any drawings relating to the ship which may be the specific property of another party), to enable such useful information to be shared and utilised to facilitate the proper working of the IACS Early Warning System LR will provide its client with written details of such information upon sending the same to IACS Members and Associates.
- (f) Information relating to the status of classification and statutory surveys and suspensions/withdrawals of class together with any associated conditions of class will be made available as required by applicable legislation or court order.
- (g) A Classification Executive consisting of senior members of LR's Classification Department staff shall carry out whatever duties that may be within the function of the Classification Committee that the Classification Committee assigns to it.

Part 3, Chapter 4

Longitudinal Strength

CORRIGENDUM

■ Section 5

Design bending moments

5.1 General

5.1.3 The design bending moments of ships with a length, L , between 40 m and 65 m may be determined using the formulae given in this Section. Alternatively, the design bending moments may be determined using an approved direct calculation system.

Part 3, Chapter 5

Fore End and Aft End Structure

CORRIGENDUM

■ Section 2

Hull envelope plating

2.2 Keel

(Part only shown)

Table 5.2.1 Shell plating forward and aft

Location	Scantlings
(3) Bottom shell, bilge and side shell plating forward and aft of the respective shoulders (a) Forward of $0,075L$ from the F.P. and aft of $0,075L$ from the A.P. (end thickness)	The greater of: $\bar{t} = (5,6 + 0,054\sqrt{L}) s \text{ mm}$ $t = (5,6 + 0,054L)\sqrt{s} \text{ mm}$ $t = 10s \text{ mm}$
(b) Between $0,075L$ and $0,25L$ from the F.P. and between $0,075L$ and $0,25L$ from the A.P.	The taper thickness as determined from the midship thickness and the end thickness using a taper line as per Ch 3,2.4

Part 3, Chapter 11

Closing Arrangements to Openings in Shell and Deck, Ventilators, Air Pipes, Sounding Pipes and Discharges

CORRIGENDUM

■ Section 2 Self-supporting steel hatch covers

2.1 Plating

Table 11.2.2 Parameters for direct calculation

Item	Bending stress, in N/mm ² (kgf/mm ²)	Shear stress, in N/mm ² (kgf/mm ²)	Deflection, in metres
Steel covers	117,7 (12,0)	168,7 (7,0) 68,7 (7,0)	0,004I ₀
Aluminium covers	69,6 (7,1)	40,2 (4,1)	0,004I ₀

Part 3, Chapter 12

Ship Control Systems

CORRIGENDA

■ Section 2 Rudders

2.5 Rudder couplings

(Part only shown)

Table 12.2.9 Rudder couplings to stock

Arrangement	Parameter	Requirements	
		Horizontal coupling	Vertical coupling
Bolted couplings	δ_b	$\frac{0,65\delta_s}{\sqrt{n}}$	$\frac{0,81\delta_7}{\sqrt{n}}$ $\frac{0,81\delta_s}{\sqrt{n}}$
	α_{\max} (see Note 2)	$(53,82 - 35,29k_1) \frac{\delta_s^3}{P_L h 10^3} - \left(1,8 - 6,3 \frac{R}{\delta_s}\right) \frac{t_f - t_{fa}}{t_{fa}}$	—
Symbols			
$P_L = 117,5k_R f (V + 5,6)^2 A_R \text{ N [N]}$			

Section 5
Equipment

5.2 General

(Part only shown)

Table 12.5.2 Equipment – Anchors, anchor cables, towlines and mooring lines

NOTES
2. The length of short or stud link chain cable for each bower anchor is to be not less than $L + 10$ m with a minimum of 40 m and a maximum of 60 m. Where wires are used, the length is to be 1,25 times that required for the chain cable. The minimum breaking strength of the chosen diameter and grade of short or stud link chain cable or wire is to be in accordance with 5.6.3 and 5.6.4.

Part 3, Chapter 13
Elevating Wheelhouse Systems

CORRIGENDA

Section 1
General requirements

1.3 Design loads and column forces

(Part only shown)

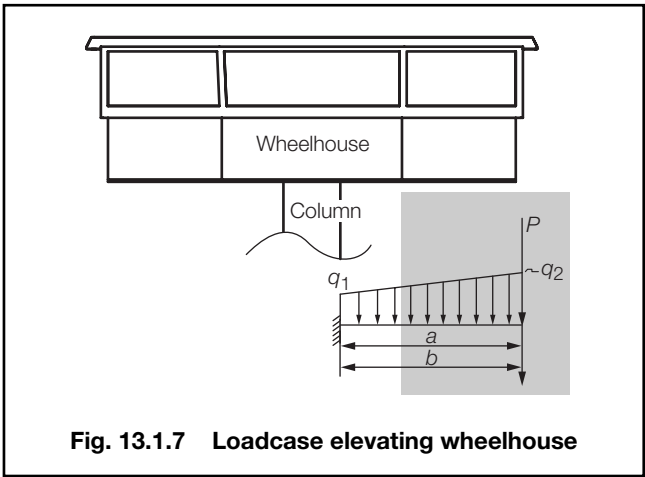
Table 13.1.3 Determination of bending moment and shear force in main girder of wheelhouse foundation

Item	Parameter	Requirement
Maximum bending moment in main girder	BM	$\left(\frac{1}{6}q_1 + \frac{1}{3}q_2\right)b^2 + Pa$ kN/m

(Part only shown)

Table 13.1.4 Block forces

Load	Requirement
Design horizontal load, F	$\sum_i^n [A_i p_w + \zeta m_i + F_{roll,dyn,i}]$ tonf



1.6 Columns

(Part only shown)

1.6.1 The thickness of the column plating is to be determined for each column. Parameters are the reaction forces in the blocks and the design bending moment in the columns. The thickness of the plating of the outer column is to be equal to the thickness of the lowest middle column (or inner column in case of the total number of columns is 2). The minimum thickness, t_p is to be taken as the greater of t_{p1} and t_{p2} :

$$t_{p1} = \sqrt[3]{\frac{5964 \text{ for } f_{block} F_{block} b_{c1}}{E}} \text{ mm}$$

Part 4, Chapter 1
Dry Cargo Ships

CORRIGENDA

■ Section 7
Double bottom structure

7.1 General

(Part only shown)

Table 1.7.1 Double-bottom structure

Item	Parameter	Requirement
(7) Inner bottom longitudinals	Modulus	$Z = 4,85 H_c s t_e^2 l_e^2 \text{ cm}^3$
(8) Bottom longitudinals	Modulus	$Z = (3,95 + 0,04 L_1) D_1 s t_e^2 l_e^2 \text{ cm}^3$

■ Section 11
Double skin structure

11.1 General

(Part only shown)

Table 1.11.1 Double skin structure (General requirements)

Item	Parameter	Requirement
(4) Shell longitudinals	Modulus	$Z = (4,6 + 0,0342 L_1) h_s s t_e^2, \text{ see Note 1}$ $(4,6 + 0,0342 L_1) h_s s l_e^2, \text{ see Note 1}$
(9) Plating of longitudinal bulkhead, see Notes 2 and 3	Thickness	$t = (5,6 + 0,054 L) \sqrt{s}$ $(5,6 + 0,054 L) \sqrt{s}$

Part 4, Chapter 6

Tankers of Type C and N

CORRIGENDA

■ Section 4

Hull envelope framing – Transversely framed ships

4.1 General

(Part only shown)

Table 6.4.1 **Hull framing – Transversely framed ships**

Symbols
$L, B, D, T, S, s, l_e, h_d, Z, I, \rho$ and t as defined in 1.12.1 h_t, h_s = 0 for void spaces or 0,5 m for deep tanks but not less than the actual distance of the top of the overflow above deck h_g = $h_p + h_d + 0,2$ m h_e, h_t = test head as defined in Table 1.7.2 in Pt 3, Ch 1, in metres

■ Section 5

Hull envelope framing – Longitudinally framed ships

5.1 General

(Part only shown)

Table 6.5.1 **Hull framing – Longitudinally framed ships – Secondary structure**

For Symbols, see Table 6.4.1
NOTES 1. In case the scantlings of longitudinal members result in an appreciable excess in the hull midship section modulus as required by Pt 3, Ch 4 for the ship type concerned, a reduction in the relevant members may be applied, provided the permissible combined bending stress and the permissible local bending stress are not exceeded. For permissible stresses, see Section 12. 2. The minimum compartment thickness of the tank structure is not to be less than as required by 1.10.

■ Section 7

Longitudinal and transverse bulkheads of integral cargo tanks

7.1 General

(Part only shown)

Table 6.7.1 **Scantlings of plane and corrugated
transverse and longitudinal bulkheads
of integral cargo tanks**

Symbols
K_c = 1,5 for mild steel, for solid stainless steel, see Table 6.7.2

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